Abstract

The present work aimed to study the incorporation of Draff (about 20% fibre and 25% protein)and Sodium Stearoil Lactilate (SSL) at wheat flour to produce bread supplemented with fibre and protein. An experimental design was adopted based on the Response Surface Methodology with 5 levels and two variables: addition of draff and addition of SSL; given rise to 9 formulations plus two replicates of the central point (10% draff and 0.25% SSL). Farinografic tests were previously made to define the hydration levels of the formulations as well as their mixing times and dough stability. The breadmaking experiments were conducted after a previously designed protocol, producing 4 breads for each formulation. These breads were evaluated after 24h for appearance (supported by photographs and scanning of the bread slices); colour Lch parameters (Minolta colorimeter); volume (rape seed method); aw (rotronic equipment); texture of the crust and crumb (Texturometer Tax-Tplus da Stable Microsystems, UK) and weight loss as well as texture and moisture at 48h and 72h after baking to follow bread aging.

It was concluded that it is possible to add up to 10% draff using about 0.15% SSL and produce breads with good properties.

Keywords: Brewer's spent grain (BSG), wheat flour, Sterol Lactylate Sodium (SSL), breadmaking process, gluten, self-life